TASK 1:

OUTPUT:

```
This page says
Hello,World!
```

TASK 2:

TASK 3:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task 1</title>
    <script>
        var num1=23;
        var num2=12;
        var add=num1+num2;
        console.log(add);
        var sub=num1-num2;
        console.log(sub);
        var mul=num1*num2;
        console.log(mul);
        var div=num1/num2;
        console.log(div);
    </script>
</html>
```

TASK 4:

OUTPUT:

TASK 5:

```
<trte>Task 1</title>
<script>
var name="john";
alert(typeof name);
let age=12;
alert(typeof age);
</script>
</html>
```





TASK 6:

Explanation of the Difference:

- Multi-line comment:
 - o Begins with /* and ends with */.
 - It can span across multiple lines, making it useful for longer descriptions or temporarily commenting out large sections of code.
- Single-line comment:
 - o Begins with // and only applies to the text following it on that line.
 - It is often used for brief comments or explanations within the code, typically on a single line.

TASK 7:

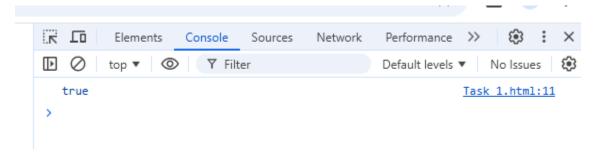
Differences in Behavior:

- **Semicolon-separated**: The behavior is explicit, and there are no ambiguities. Each statement is clearly separated.
- Non-semicolon-separated: JavaScript uses ASI to automatically insert semicolons at the end of lines, but this can sometimes lead to unexpected behavior, especially in complex code. For example, in some cases (like when returning values from a function), ASI might not work as expected and cause errors.

OUTPUT:

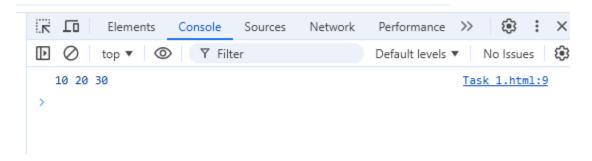
```
Performance
                                                                         (3)
...
    \Box
           Elements
                      Console
                                 Sources
                                           Network
                                                     Default levels ▼
▼ Filter
          top ▼ O
                                                                      No Issues
   12
                                                                  Task 1.html:11
   12
                                                                  Task 1.html:13
> |
```

TASK 8:



TASK 9:

OUTPUT:



TASK 10:

Scenario 1: <script> at the top of the document (inside the <head> section)

Scenario 2: <script> at the bottom of the document (just before </body>)

Key Differences in Behavior:

- Execution Timing:
 - Top of the document: The script is executed before the content is rendered, potentially blocking the rendering.
 - o **Bottom of the document**: The script is executed after the HTML content has been parsed and rendered.
- Page Load Speed:
 - o **Top of the document**: Can slow down the initial rendering of the page.
 - o **Bottom of the document**: Faster rendering, as the script is fetched and executed after the page is displayed.

TASK 11:

OUTPUT:

TASK 12:

TASK 13:

```
<!DOCTYPE html>
<html lang="en">
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>"use strict" Test</title>
</head>
<body>
   <script>
        "use strict";
       var myVar = 10;
       try {
           delete myVar;
        } catch (e) {
            console.log("Error deleting variable: " + e.message);
       function myFunction() {
           return "Hello!";
       try {
            delete myFunction;
        } catch (e) {
            console.log("Error deleting function: " + e.message);
        function myFunctionWithParam(param) {
           try {
                delete param;
            } catch (e) {
                console.log("Error deleting function parameter: " + e.message);
       myFunctionWithParam("test");
```

TASK 14:

WITHOUT USE STRICT:

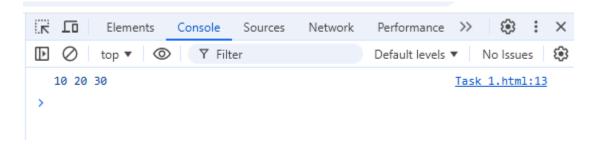
WITH USE STRICT:

OUTPUT:

TASK 15:

TASK 16:

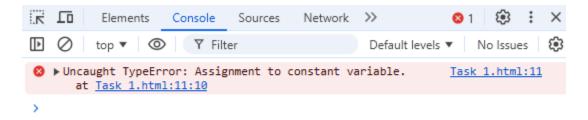
OUTPUT:



- Use const by default: Most variables should be constants. If the variable's value is not going to change, const is a good choice because it ensures immutability.
- Use let when reassignment is necessary: If you need to reassign the variable, such as in loops or conditional statements, use let.
- Avoid var: In modern JavaScript, var is generally avoided because its function-scoping and hoisting behavior can lead to bugs. Stick to let and const for better scoping and cleaner, more predictable code.

TASK 17:

```
<!DOCTYPE html>
<html lang="en">
<head>
```

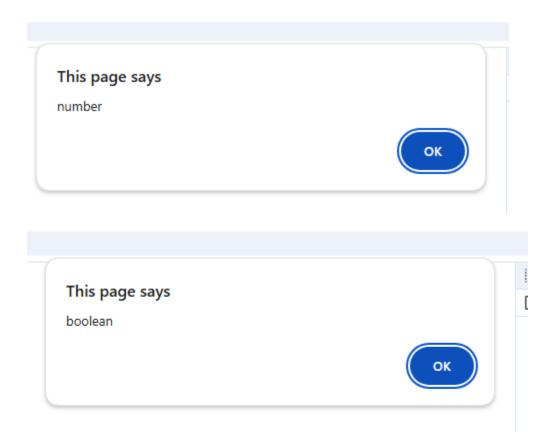


TASK 18:

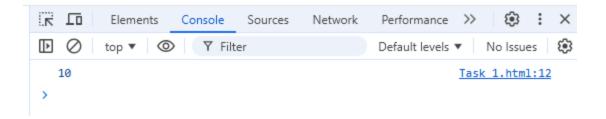
TASK 19:

```
<!DOCTYPE html>
<html lang="en">
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>"use strict" Test - Reserved Keyword</title>
</head>
<body>
   <script>
       var name="Johny";
       let age=19;
       var boolean=false;
       alert(typeof name);
       alert(typeof age);
       alert(typeof boolean);
   </script>
</body>
</html>
```





TASK 20:



TASK 21:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Data Types in JavaScript</title>
</head>
<body>
   <script>
        let name = "Pavithra";
        let age = 25;
       let isActive = true;
        let define = null;
        let notAssigned; /
        let person = {
            firstName: "Pavithra",
            lastName: "Ravichandhran",
            age: 25
        };
        console.log(name);
        console.log(age);
        console.log(isActive);
        console.log(define);
        console.log(notAssigned);
        console.log(person.lastName);
    </script>
</body>
```

```
к Го
         Elements
                  Console
                                    Network
                                             Performance >> (3) : X
                           Sources
Default levels ▼ No Issues 🕃
  Pavithra
                                                       Task 1.html:20
  25
                                                       Task 1.html:21
  true
                                                       Task 1.html:22
  null
                                                       Task 1.html:23
  undefined
                                                       Task 1.html:24
  Ravichandhran
                                                       Task 1.html:25
```

TASK 22:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Data Types in JavaScript</title>
</head>
<body>
    <script>
        let name = "Pavithra";
        let age = 25;
        let isActive = true;
        let define = null;
        let notAssigned;
        let person = {
            firstName: "Pavithra",
            lastName: "Ravichandhran",
            age: 25
        };
        console.log(typeof name);
        console.log(typeof age);
        console.log(typeof isActive);
        console.log(typeof define);
        console.log(typeof notAssigned);
        console.log(typeof person.lastName);
    </script>
</body>
/html>
```

```
Elements
                                           Performance >> (3) : X
                  Console
                          Sources
                                  Network
Default levels ▼ No Issues 🕄
  string
                                                     Task 1.html:20
  number
                                                     Task 1.html:21
  boolean
                                                     Task 1.html:22
  object
                                                     Task 1.html:23
  undefined
                                                     Task 1.html:24
  string
                                                     Task 1.html:25
```

TASK 23:

OUTPUT:

TASK 24:

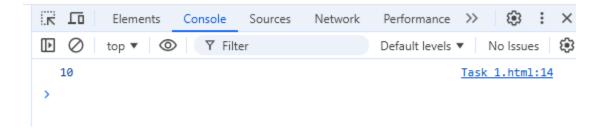
```
<!DOCTYPE html>
```



TASK 25:

```
<!DOCTYPE html>
<html lang="en">
   <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>var vs let Scope</title>
</head>
<body>
   <script>
        function varScopeExample() {
            if (true) {
                var x = 10;
            console.log(x);
        function letScopeExample() {
            if (true) {
                let y = 20;
       varScopeExample();
```

```
letScopeExample();
    </script>
    </body>
    </html>
```



TASK 26:

Implicit Conversion (Type Coercion)

OUTPUT:

Explicit Conversion (Using Built-in Functions)

```
let num2 = parseInt(str);
    console.log(num2);
    console.log(typeof num2);
    let str2 = "42.5";
    let num3 = parseFloat(str2);
    console.log(num3);
    console.log(typeof num3);
    </script>
</body>
</html>
```

```
K [0
          Elements
                    Console
                             Sources
                                      Network
                                                Performance >>
Default levels ▼ No Issues 🕃
         top ▼ 🔘 🔻 Filter
  42
                                                           Task 1.html:12
  number
                                                           Task 1.html:13
  42
                                                           Task 1.html:15
  number
                                                           Task 1.html:16
  42.5
                                                           Task 1.html:19
                                                           Task 1.html:20
  number
```

TASK 27:

TASK 28:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>var vs let Scope</title>
<body>
   <script>
        var a=10;
        var b=20;
        var add=a+b;
        console.log(add);
        console.log(a-b);
        console.log(a*b);
        console.log(a/b);
        console.log(a%b);
    </script>
</body>
</html>
```

```
K [0
                                                          €3 :
                                            Performance >>
         Elements
                  Console
                           Sources
                                   Network
Default levels ▼ No Issues 🕃
  30
                                                      Task 1.html:13
  -10
                                                      Task 1.html:14
  200
                                                      Task 1.html:15
  0.5
                                                      Task 1.html:16
  10
                                                      Task 1.html:17
```

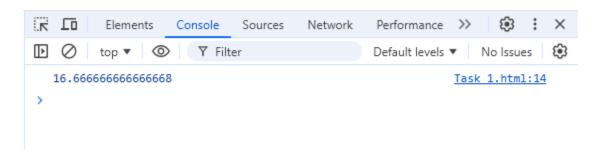
TASK 29:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>var vs let Scope</title>
</head>
<body>
    <script>
        var a=10;
        var b=20;
        a++;
        console.log(a);
        console.log(b);
    </script>
</body>
</html>
```

OUTPUT:

TASK 30:

```
let fun=a+(b*a)/c;
    console.log(fun);
    </script>
    </body>
    </html>
```



TASK 31:

```
<!DOCTYPE html>
<html>
   <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-</pre>
width,initial-scale=1.0">
        <title>Task</title>
    </head>
    <script>
        let a = 7;
        let b = 5;
        console.log( a > b);
        console.log( a < b);</pre>
        console.log( a >= b);
        console.log(a \leftarrow b);
    </script>
</html>
```

OUTPUT:

TASK 32:

```
</head>
  <script>
    let a="5";
    let b=5;
    console.log( a == b);
    console.log( a === b);
    </script>
</html>
```

Key Differences:

- Equality (==): Performs type coercion. For example, num == str is true because JavaScript converts the string "5" to the number 5 before comparing.
- Strict Equality (===): Does not perform type coercion. For example, num === str is false because one is a number and the other is a string.

TASK 33:

```
    let str1 = "apple";
    let str2 = "banana";
    console.log(str1 < str2);
    console.log(str1 > str2);
    console.log(str1 === str2);
    console.log(str1 <= str2);
    console.log(str1 >= str2);
    </script>
</html>
```

```
Performance >> (3) : X
K [0
         Elements
                 Console
                          Sources
                                  Network
Default levels ▼ No Issues 🕄
  true
                                                      Task.html:11
  false
                                                      Task.html:12
                                                      Task.html:13
  false
  true
                                                      Task.html:14
                                                      Task.html:15
  false
```

TASK 34:

```
let a=5;
    let b=10;
    console.log(a!=b);
    console.log(a!==b);
    </script>
</html>
```

TASK 35:

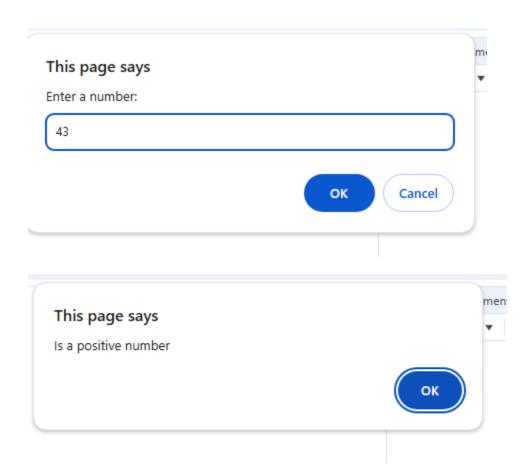
TASK 36:

```
<!DOCTYPE html>
<html>
   <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-</pre>
width,initial-scale=1.0">
        <title>Task</title>
    </head>
    <script>
        let num=6;
        if(num%2==0)
            document.writeln("Is a even number");
        }
        else
            document.writeln("Is a odd number");
    </script>
</html>
```

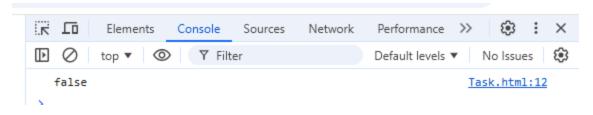
Is a even number

TASK 37:

```
<!DOCTYPE html>
<html>
   <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-</pre>
width, initial-scale=1.0">
        <title>Task</title>
    </head>
    <script>
        var num=prompt("Enter a number:");
        if(num==0)
            alert("Is a zero");
        else if(num<0)</pre>
            alert("Is a negative number");
        else
            alert("Is a positive number");
    </script>
</html>
```



TASK 38:



TASK 39:

OUTPUT:



TASK 40:

```
</head>
    <script>
        let num=8
        let result=(num>0?"positive":"negative");
        console.log(result);
        </script>
</html>
```

OUTPUT:

TASK 41:

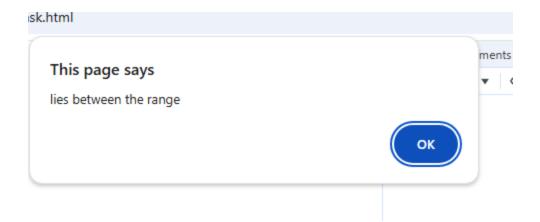
```
<!DOCTYPE html>
<html>
   <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-</pre>
width,initial-scale=1.0">
        <title>Task</title>
    </head>
    <script>
        let num1=5;
        let num2=10;
        console.log(num1&&num2);
        console.log(num1||num2);
        console.log(!num1);
    </script>
</html>
```

OUTPUT:

TASK 42:

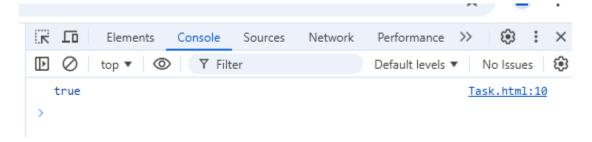
```
<!DOCTYPE html>
<html>
   <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-</pre>
width, initial-scale=1.0">
        <title>Task</title>
    </head>
    <script>
        let a=5;
        if(a \ge 0 \&\& a \le 20)
    {
        alert("lies between the range");
    }
    else{
        alert("not lies");
    </script>
</html>
```

OUTPUT:



TASK 43:

OUTPUT:



TASK 44:

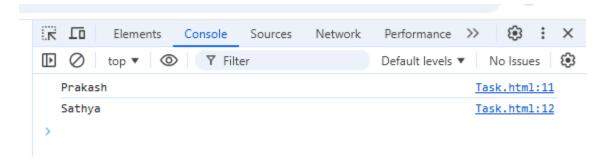
```
<!DOCTYPE html>
<html>
```

OUTPUT:

TASK 45:

```
console.log(a||b);
  </script>
</html>
```

OUTPUT:



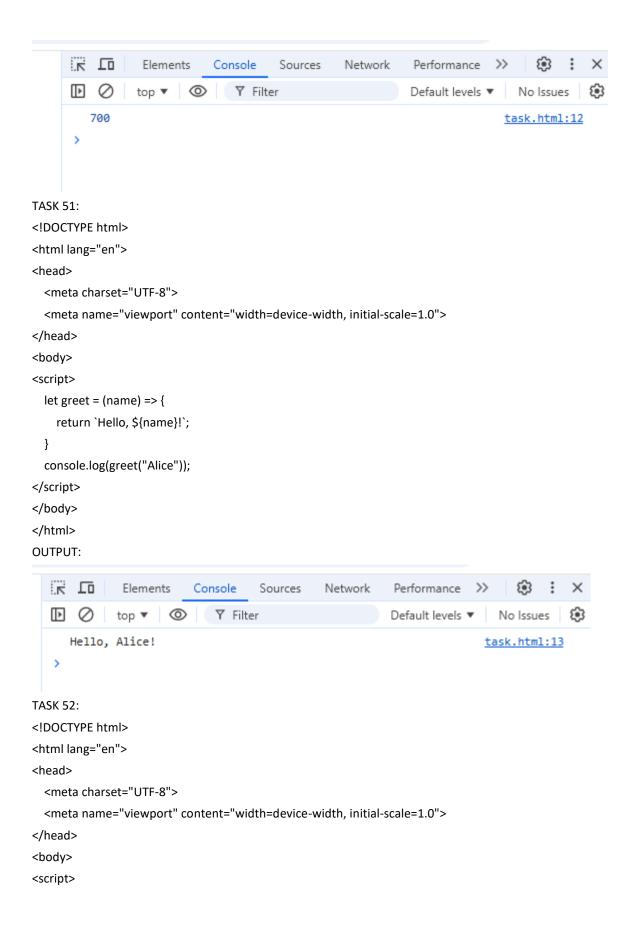
```
TASK 46:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<script>
  function add(a,b)
    return a+b;
  }
  console.log (add(5,3));
</script>
</body>
</html>
OUTPUT:
   K [0
                                                                                  €3
               Elements
                           Console
                                      Sources
                                                 Network
                                                             Performance >>
              top ▼ 🔘
                           ▼ Filter
                                                            Default levels ▼
                                                                              No Issues
      8
                                                                            task.html:12
TASK 47:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<script>
  function area(a,b)
    return a*b;
  console.log (area(5,3));
</script>
</body>
</html>
```

```
7
          \Box
                                          Sources
                                                     Network
                                                                 Performance
                  Elements
                               Console
      Þ
                          0
                                  ▼ Filter
                                                                Default levels ▼
                                                                                  No Issues
                 top ▼
         15
                                                                                task.html:12
TASK 48:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<script>
  function parameter()
    let a=10;
    let b=20;
    return a*b;
  console.log (parameter());
</script>
</body>
</html>
OUTPUT:
   K [0
                                                             Performance >>
               Elements
                           Console
                                      Sources
                                                  Network
                             ▼ Filter
                                                                               No Issues
              top ▼
                                                             Default levels ▼
      200
                                                                             task.html:14
TASK 49:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

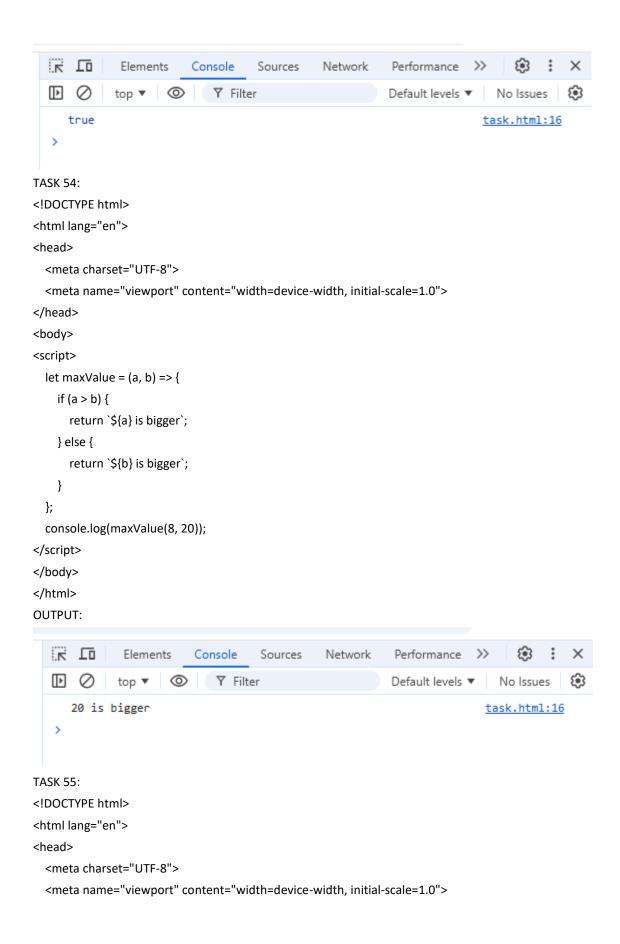
```
</head>
<script>
  function parameter()
    let a=10;
    let b=20;
    return;
 }
  console.log (parameter());
</script>
</body>
</html>
OUTPUT:
        \Box
                             Console
                                                   Network
                                                               Performance
                                                                                    (3)
                                                                                        : ×
                 Elements
                                        Sources
    Þ
               top ▼

▼ Filter

                                                               Default levels ▼
                                                                                 No Issues
        undefined
                                                                               task.html:14
TASK 50:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<script>
  function parameter(a,b=20)
    return a*b;
 }
  console.log (parameter(35));
</script>
</body>
</html>
OUTPUT:
```



```
let add = (num1,num2) => {
    return num1+num2;
  }
  console.log(add(7,8));
  console.log(add(78,45));
  console.log(add(37,33));
</script>
</body>
</html>
OUTPUT:
     K [0
                                                               Performance
                                                                                    (<u>i)</u>
                 Elements
                             Console
                                        Sources
                                                    Network
     ▼ Filter
                                                               Default levels ▼
                                                                                 No Issues
                top ▼
                         0
        15
                                                                               task.html:12
        123
                                                                               task.html:13
        70
                                                                               task.html:14
TASK 53:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
  let even=(num)=>
{
  if(num%2==0)
   return true;
  else
   return false;
}
  console.log(even(8));
</script>
</body>
</html>
OUTPUT:
```



```
<title>this Behavior</title>
</head>
<body>
<script>
  let myObject = {
    value: 10,
    multiplyTraditional: function(num) {
      return this.value * num;
    },
    multiplyArrow: (num) => {
      return this.value * num;
    }
 };
  console.log(myObject.multiplyTraditional(5));
  console.log(myObject.multiplyArrow(7));
</script>
</body>
</html>
OUTPUT:
```

